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SUGARCANE VARIETY TESTS IN FLORIDA 1973–74 HARVEST SEASON

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SUGARCANE VARIETY TESTS IN FLORIDA, 1973-74 HARVEST SEASON

By Edwin R. Rice 1/

One factor that contributes to the highly successful production of sugarcane in Florida is the long harvest season, which normally extends from late October to mid-April. Varieties are needed that mature throughout this period in various types of soil and growing conditions.

The easing of acreage restrictions has resulted in the expansion of sugarcane to areas normally subjected to freezing temperatures. A large proportion of sugarcane research is being directed toward producing varieties adapted to these areas.

The 1973-74 harvest season was much colder than the previous two seasons, and several freezes occurred at various places.2/ Although a record number of acres were harvested, the production of sugar was less than in the previous season because of low-density cane and several freezes.3/

Test Procedures

Replicated test plantings of 26 varieties were harvested at 7 locations. Five test fields were on Everglades peat soil on the properties of Gulf and Western Food Products Co. at Okeelanta; Hatton Bros., Inc., east of Canal Point; Wedgworth Farms, Inc., east of Belle Glade; A. F. Saunders, Inc., south of Clewiston; and S.D. Corp., near 20-mile bend in Palm Beach County. One test field on mucky sand was at Lykes Bros., near Lakeport in Glades County. A test field on custard-apple muck was located on the Beardsley farm near Lake Harbor. This area, closer to Lake Okeechobee than the other six locations, seldom suffers frost damage.

1/Research agronomist, Agricultural Research Service, U.S. Department of Agriculture, Canal Point, Fla. 33438.

2/Mincey, W. F. 1974. Lakeland ARC mimeo. Federal-State Agricultural Weather Service (in press).

3/Florida Sugar News, Vol. 2, No. 1, 6 pp.

Varieties were observed in preliminary testing stages for several years; then, the most promising varieties for commercial production were planted in replicated experiments. C1 41-223 and CP 63-588, the two leading varieties in Florida,4/ were used as checks. In each of 18 tests, plots of 1/62 acre were arranged in a randomized block design with 4 replications. The margins around test plantings were buffered to eliminate border effects and mechanical damage, but individual four-row plots were not buffered. All test fields, from the time of planting until harvest, were maintained by the same practices given adjacent commercial fields at each cooperating plantation.

To determine maturity, 10 stalks were taken at random from the unburned standing cane in two of the four replications of each variety at each location between October 23 and November 1, 1973. The samples were milled, the crusher juice was analyzed for percent Brix and sucrose, and indicated yields of sugar per ton of cane were determined. To calculate sugar per acre from these early-sample data, we assumed that yield of cane per acre was equal to the actual yield obtained at harvest.

Replicated tests were harvested between November 26, 1973, and March 30, 1974. After it was burned, all cane was cut and piled by hand, then weighed with a tractor-mounted weighing device. Fifteen full-length stalks were taken at random from each replication and transported to Agricultural Research Service's Canal Point Laboratory for weighing, milling, and crusher juice analysis.

All values for sugar per ton of cane and sugar per acre in this report are indicated (theoretical) yields calculated in accordance with Arceneaux's simplification of the Winter-Carp-Geerligs formula.5/ An explanation of the formula may be found in a previous publication.6/ Variety correction factors (table 1) used in the formula were obtained from milling studies at Canal Point.7/

Although indicated sugar yields reported herein may not be obtained by all sugar factories, these yields are representative of average values that can be obtained in Florida and, more important, they are valid for comparing varieties with different milling qualities and sucrose reduction factors.

4/Freeman, C. E. 1974. The 1973 sugarcane variety census for Florida. Agronomy Facts, No. 46, 4 pp. University of Florida, Institute of Food and Agricultural Sciences.

5/Arceneaux, G. 1935. A simplified method of making theoretical sugar yield calculations in accordance with the Winter-Carp-Geerligs formula. Int. Sugar J. 37: 264-265.

6/Rice, E. R., and Hebert, L. P. 1972. Sugarcane variety tests in Florida during the 1971-72 season. U.S. Dep. Agric., Agric. Res. Serv. (Rep.) ARS-S-2, 14 pp.

7/The author is grateful to J. D. Miller, research geneticist, Agricultural Research Service, for supplying the variety correction factors for this report.

Summary of Test Results

Tables 2-6 give the results of plant-cane experiments on five Everglades peat locations; tables 7-11 give the results of first-stubble experiments; and tables 12-16 give the results of second-stubble experiments. The results from plant-cane and stubble experiments on custard-apple muck are given in tables 17-19. Table 20 gives the results of the first-stubble experiment on mucky sand at the Lykes Bros. farm.

Several unreleased varieties from the 1968 Canal Point (CP) series were outstanding in the first-stubble experiments and also performed well in the plant-cane experiments during the 1972-73 harvest.8/ Several released varieties produced high yields in the second-stubble experiments.

EXPERIMENTS ON EVERGLADES PEAT

CP 69-1052, a new high-tonnage variety, was the outstanding experimental variety in the plant-cane tests. This variety averaged significantly more cane and sugar per acre than any other experimental variety in preharvest and harvest tests. However, it was not significantly better than check variety CP 63-588 (tables 2, 4, 6).

CP 65-357, characterized by high tonnage, a small barrel, and strong stubbling ability, was the outstanding variety in the first-stubble experiments. It averaged 54.96 tons of cane per acre and yielded 10,907 and 12,090 pounds of sugar per acre, respectively, in preharvest and harvest tests, thus surpassing both check varieties by highly significant differences in the above categories (tables 7, 9, 11). At harvest, CP 65-357 produced 64 and 37 percent more sugar per acre than the two check varieties, C1 41-223 and CP 63-588 respectively.

CP 68-1026, a high-sucrose, low-fiber variety, yielded more cane and sugar per acre in the first-stubble test at S.D. Corp. on January 31 than any other variety (tables 7 and 11). It also averaged more sugar per acre than any other variety except CP 65-357 at all locations on both preharvest and final harvest dates (tables 9 and 11). Average preharvest samples from all farms showed CP 68-1026 superior to all varieties except CP 68-1022 in yields of sugar per ton of cane (table 8). This variety produced 54 and 29 percent more sugar per acre at harvesttime than the two check varieties, C1 41-223 and CP 63-588, respectively.

8/Rice, E. R. 1973. Sugarcane variety tests in Florida, 1972-73 harvest season. U.S. Dep. Agric., Agric. Res. Serv. (Rep.) ARS-S-23, 16 pp.

CP 68-1067, a new low-fiber, large-barreled variety, produced high yields of sugar per ton of cane in first-stubble harvests and was surpassed only by CP 68-1022 in the average of all farms (table 10). This variety surpassed the check varieties, Cl 41-223 and CP 63-588, by 47 and 23 percent, respectively, in average yields of sugar per acre in all first-stubble tests (table 11). CP 68-1067 shades the row well and has excellent milling qualities.

CP 68-1145, a vigorous high-tonnage, low sucrose variety, surpassed all other varieties in yield of cane per acre in first-stubble experiments at the Wedgworth and Hatton Bros. farms (table 7). It also yielded 13,147 pounds of sugar per acre at the Wedgworth farm in the November 26 harvest, thus surpassing all other varieties (table 11).

CP 68-1022, a high-sucrose, high-fiber, low-tonnage variety, surpassed all other varieties in average indicated yields of sugar per ton of cane in both preharvest and harvest samples, averaging 108 and 106 percent of CP 63-588, respectively, in both categories (tables 8 and 10).

CP 62-374, characterized by high-tonnage, a large, clean barrel, and low fiber, was the outstanding variety in the four second-stubble experiments. It averaged 40.65 tons of cane and 9,532 pounds of sugar per acre at harvest, surpassing all other varieties in these categories (tables 12 and 16). CP 62-374 germinates rapidly and grows faster than any other released Canal Point variety.

CP 56-59, a nonflowering, strong-stubbling variety released in 1967, was grown only in second-stubble tests. It ranked first in yields of cane and sugar per acre in preharvest and harvest data at Hatton Bros. farm. CP 56-59 was surpassed only by CP 62-374 in the average yields of cane and sugar per acre on all farms (tables 12, 14, and 16).

CP 63-588, an early-maturing, high-sucrose variety, was harvested in plant-cane, first-stubble, and second-stubble tests. It averaged 125, 99, and 123 percent of Cl 41-223 in yields of cane per acre, sugar per ton of cane, and sugar per acre, respectively, in five plant-cane tests. CP 63-588 was surpassed only by CP 69-1052 in yields of cane and sugar per acre in the above tests (tables 2, 5, and 6). Second-stubble CP 63-588 yielded 232.7 pounds of sugar per ton of cane at Hatton Bros. farm on November 1 and gave 239.8 pounds of sugar per ton of cane as an average of all farms at final harvest (tables 13 and 15). CP 63-588 shades the row well and has milling qualities equal to Cl 41-223, the most widely grown variety in Florida.

CP 63-306, a small-barreled, early-maturing variety, was grown only in second-stubble tests. It averaged more sugar per ton of cane than all other varieties in preharvest samples (table 13). CP 63-306 outyielded all other varieties in sugar per ton of cane at the Wedgworth farm at harvest and surpassed all other varieties except CP 63-588 in the average yield on all farms (table 15). CP 63-306 grows erect under normal conditions.

EXPERIMENTS ON CUSTARD-APPLE MUCK

Plant-cane, first-stubble, and second-stubble plantings were harvested on custard-apple muck at the Beardsley farm. CP 63-588, the second most widely grown variety in Florida (3), surpassed all other varieties in yields of cane and sugar per acre in the plant-cane harvest on February 12 (table 17). Second-stubble data from preharvest samples showed CP 63-588 superior to all other varieties in yield of sugar per ton of cane. The variety was surpassed only by CP 62-374 and CP 63-306 in yield of sugar per acre at harvest (table 19). The high yields of sugar per ton of cane and sugar per acre have made CP 63-588 an important commercial variety.

CP 68-1145 was the outstanding variety in the first-stubble experiment. The variety ranked first in yields of cane and sugar per acre at harvest on February 14 (table 18).

CP 65-357, grown only in the first-stubble experiment, performed well in all yield categories. The variety ranked second in yields of cane and sugar per acre at preharvest, and third in yield of sugar per acre at final harvest. It was not significantly surpassed by any other variety in the above categories (table 18).

CP 62-374 was superior to all other varieties in yields of cane, sugar per ton of cane, and sugar per acre in the second-stubble experiment harvested on February 12 (table 19). Although this variety flowers early, it produces high yields of cane and sugar per acre.

CP 63-306 exceeded all other varieties in yield of sugar per acre in the preharvest on October 31. This variety was surpassed only by CP 62-374 in tons of cane, sugar per ton of cane, and sugar per acre in the February 12 harvest (table 19).

EXPERIMENT ON MUCKY SAND

Several released and unreleased varieties performed well in the first-stubble experiment at Lykes Bros. farm. CP 62-374, the early-flowering, high-tonnage variety, produced 54.97 tons of cane per acre and 12,484 pounds of sugar per acre on October 23, thus surpassing all other varieties in the above categories.

CP 68-1026, a promising new variety, was superior to all other varieties in yield of sugar per acre on December 20 and was surpassed only by CP 62-374 in sugar per acre in the preharvest data on October 23.

CP 68-1022, the high-sucrose, low-tonnage variety, yielded 233.2 pounds of sugar per ton of cane based on preharvest samples and 261.6 pounds of sugar at harvest, thus surpassing all other varieties in these categories (table 20).

TABLE 1.--*Variety correction factors (V.C.F.)* 1/

Variety	V.C.F.	Variety	V.C.F.
C1 41-223.....	1.00	CP 68-1067...	1.02
CP 56-59.....	.96	CP 68-1115...	1.02
CP 57-603.....	1.02	CP 68-1145...	.94
CP 62-374.....	1.04	CP 68-1154...	.96
CP 63-306.....	1.00	CP 68-1158...	1.00
CP 63-485.....	.94	CP 69-1052...	.96
CP 63-588.....	1.00	CP 69-1056...	1.02
CP 65-357.....	.96	CP 69-1059...	.98
CP 66-1079.....	.94	CP 69-1061...	1.00
CP 68-1020.....	.96	CP 69-1062...	.94
CP 68-1022.....	.94	CP 69-1074...	1.02
CP 68-1026.....	1.02	CP 69-1127...	.98
CP 68-1031.....	.96	L 61-49.....	.94

1/ Variety correction factors were used to calculate the theoretical yield of 96° sugar per ton of cane according to Arceneaux's simplification of the Winter-Carp-Geerligs formula.

TABLE 2.--*Yields of cane, in tons per acre, from plant cane grown on Everglades peat*

Variety	Average yield by farm and harvest date					Average yield, all farms
	Wedgworth 11/26/73	S.D. Corp. 12/20/73	Okeelanta 1/28/74	Saunders 2/21/74	Hatton Bros. 3/27/74	
C1 41-223.....	49.40	46.38	44.74	47.44	49.58	47.51
CP 63-588.....	63.44	57.65	63.74	56.83	1/55.10	59.35
CP 68-1158.....	51.44	55.34	50.54	48.60	42.69	49.72
CP 69-1052.....	58.29	57.64	65.10	60.98	65.54	61.51
CP 69-1056.....	52.74	52.84	42.20	41.16	1/37.04	45.20
CP 69-1059.....	62.66	47.86	50.76	44.44	50.94	51.33
CP 69-1061.....	64.30	52.84	54.12	57.56	58.04	57.37
CP 69-1062.....	53.43	44.46	44.86	48.70	54.58	49.21
CP 69-1074.....	46.88	44.58	40.80	41.71	40.14	42.82
CP 69-1127.....	-----	-----	49.46	-----	42.61	2/46.04
L.S.D.:3/						
5% level...	5.02	(4/)	5.09	6.91	7.18	3.70
1% level...	6.80	(4/)	6.87	9.37	9.70	4.89

1/ Severe rat damage.
2/ Average of 2 locations.
3/ L.S.D. = Least significant difference between any 2 values.
4/ Not significant.

TABLE 3.--*Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of plant cane on Everglades peat*

Variety	Average yield by farm and sampling date					Average yield, all farms
	S.D. Corp. 10/24/73	Wedgworth 10/25/73	Okeelanta 10/26/73	Saunders 10/30/73	Hatton Bros. 11/1/73	
C1 41-223.....	152.6	217.2	201.2	178.8	183.6	186.6
CP 63-588.....	154.8	211.5	203.4	200.1	207.8	195.5
CP 68-1158.....	172.7	172.4	235.0	179.2	199.8	191.8
CP 69-1052.....	155.2	198.6	180.2	211.0	200.6	189.1
CP 69-1056.....	187.4	203.9	215.0	239.0	220.1	213.0
CP 69-1059.....	179.0	188.7	195.6	202.4	208.5	194.8
CP 69-1061.....	143.8	200.2	196.3	179.9	224.3	188.9
CP 69-1062.....	168.2	198.4	219.2	202.4	208.5	199.3
CP 69-1074.....	212.4	231.0	244.0	210.4	243.0	228.2
CP 69-1127.....	-----	-----	201.4	-----	247.2	1/224.3

1/ Average of 2 locations.

TABLE 4.--*Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of plant cane grown on Everglades peat* 1/

Variety	Average yields by farm and sampling date					Average yield, all farms
	S.D. Corp. 10/24/73	Wedgworth 10/25/73	Okeelanta 10/26/73	Saunders 10/30/73	Hatton Bros. 11/1/73	
C1 41-223.....	7,078	10,730	9,002	8,482	9,103	8,879
CP 63-588.....	8,924	13,411	12,965	11,372	11,450	11,624
CP 68-1158.....	9,557	8,868	11,877	8,709	8,529	9,508
CP 69-1052.....	8,946	11,576	11,731	12,867	13,147	11,653
CP 69-1056.....	9,902	10,754	9,073	9,837	8,152	9,544
CP 69-1059.....	8,567	11,824	9,929	8,995	10,621	9,987
CP 69-1061.....	7,598	12,873	10,624	10,355	13,018	10,894
CP 69-1062.....	7,478	10,600	9,833	9,857	11,380	9,830
CP 69-1074.....	9,469	10,829	9,955	8,776	9,754	9,756
CP 69-1127.....	-----	------	9,961	-----	10,533	2/10,247

1/ Yields of sugar per acre are based on early sucrose analysis and assume that early yields of cane per acre are equal to actual yields at harvest.

2/ Average of 2 locations.

TABLE 5.--*Indicated yields of 96° sugar, in pounds per ton of cane, from plant cane grown on Everglades peat*

Variety	Average yield by farm and harvest date					Average yield, all farms
	Wedgworth 11/26/73	S.D. Corp. 12/20/73	Okeelanta 1/28/74	Saunders 2/21/74	Hatton Bros. 3/27/74	
C1 41-223.....	217.6	217.8	220.4	215.3	264.3	227.0
CP 63-588.....	221.9	219.5	224.2	213.0	242.0	224.1
CP 68-1158.....	196.2	221.2	216.4	216.0	256.8	221.3
CP 69-1052.....	222.9	224.8	210.6	195.2	227.9	216.2
CP 69-1056.....	230.5	230.9	220.6	165.8	234.3	216.4
CP 69-1059.....	226.1	215.2	222.2	191.3	233.2	217.6
CP 69-1061.....	200.4	234.6	234.8	213.8	234.9	223.7
CP 69-1062.....	201.9	199.5	204.0	173.6	217.5	199.3
CP 69-1074.....	243.9	250.7	238.7	198.0	238.6	234.0
CP 69-1127.....	-----	-----	246.0	-----	258.0	1/252.0
L.S.D.: 2/						
5% level...	15.8	22.6	19.5	18.6	14.4	7.9
1% level...	21.4	30.6	(3/)	25.3	19.4	10.4

1/ Average of 2 locations.
2/ L.S.D. = Least significant difference between any 2 values.
3/ Not significant.

TABLE 6.--*Indicated yields of 96° sugar, in pounds per acre of cane, from plant cane grown on Everglades peat*

Variety	Average yield by farm and harvest date					Average yield, all farms
	Wedgworth 11/26/73	S.D. Corp. 12/20/73	Okeelanta 1/28/74	Saunders 2/21/74	Hatton Bros. 3/27/74	
C1 41-223.....	10,749	10,102	9,861	10,214	13,104	10,806
CP 63-588.....	14,077	12,654	14,290	12,105	13,334	13,292
CP 68-1158.....	10,092	12,241	10,937	10,498	10,963	10,946
CP 69-1052.....	12,993	12,957	13,710	11,903	14,936	13,300
CP 69-1056.....	12,156	12,201	9,309	6,824	8,678	9,834
CP 69-1059.....	14,167	10,299	11,279	8,501	11,879	11,225
CP 69-1061.....	12,886	12,396	12,707	12,306	13,634	12,786
CP 69-1062.....	10,788	8,870	9,151	8,454	11,871	9,826
CP 69-1074.....	11,434	11,176	9,739	8,258	9,577	10,036
CP 69-1127.....	------	------	12,167	------	10,993	1/11,580
L.S.D.: 2/						
5% level...	982	1,975	1,059	1,127	1,112	575
1% level...	1,331	2,677	1,430	1,527	1,502	760

1/ Average of 2 locations.
2/ L.S.D. = Least significant difference between any 2 values.

TABLE 7.--*Yields of cane, in tons per acre, from first-stubble cane grown on Everglades peat*

Variety	Average yield by farm and harvest date					Average yield, all farms
	Wedgworth 11/26/73	Saunders 1/2/74	Okeelanta 1/15/74	S.D. Corp. 1/31/74	Hatton Bros. 3/28/74	
C1 41-223.....	41.26	24.08	33.98	37.82	1/32.32	33.89
CP 63-485.....	44.63	36.41	40.85	36.48	38.19	39.31
CP 63-588.....	51.88	26.04	47.07	40.28	1/33.84	39.82
CP 65-357.....	59.54	57.12	55.70	53.11	49.32	54.96
CP 68-1020.....	53.72	40.66	42.82	52.30	41.08	46.12
CP 68-1022.....	35.93	29.17	40.66	41.57	35.68	36.60
CP 68-1026.....	54.04	49.99	47.44	53.86	47.10	50.49
CP 68-1031.....	48.02	46.60	47.86	37.86	36.65	43.40
CP 68-1067.....	56.74	36.45	50.34	48.44	46.17	47.63
CP 68-1115.....	42.47	42.91	36.04	36.34	1/23.74	36.30
CP 68-1145.....	68.19	45.79	54.86	53.48	50.74	54.61
CP 68-1154.....	58.14	49.22	47.18	39.05	36.42	46.00
L.S.D.:2/						
5% level...	5.03	6.78	5.15	6.57	4.92	2.49
1% level...	6.76	9.11	6.92	8.83	6.62	3.28

1/ Severe rat damage.
2/ L.S.D. = Least significant difference between any 2 values.

TABLE 8.--*Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of first-stubble cane grown on Everglades peat*

Variety	Average yield by farm and sampling date					Average yield, all farms
	S.D. Corp. 10/24/73	Wedgworth 10/25/73	Okeelanta 10/29/73	Saunders 10/30/73	Hatton Bros. 11/1/73	
C1 41-223.....	147.3	199.9	208.8	217.9	193.5	193.4
CP 63-485.....	165.9	176.8	201.8	197.0	189.2	186.1
CP 63-588.....	150.0	213.2	211.9	229.5	197.7	200.4
CP 65-357.....	172.4	188.1	210.9	220.4	199.6	198.2
CP 68-1020.....	154.3	183.0	174.8	204.0	188.5	180.9
CP 68-1022.....	202.0	233.6	202.9	239.8	208.2	217.3
CP 68-1026.....	154.8	236.6	212.8	228.2	207.2	207.9
CP 68-1031.....	176.0	201.8	178.6	188.4	202.2	189.4
CP 68-1067.....	188.0	229.7	218.1	211.6	189.6	207.4
CP 68-1115.....	135.6	163.8	186.9	180.8	178.0	169.0
CP 68-1145.....	126.4	184.2	146.1	187.6	169.1	162.6
CP 68-1154.....	171.0	197.4	190.8	195.4	217.6	194.4

TABLE 9.--*Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of first-stubble cane grown on Everglades peat* 1/

Variety	Average yield by farm and sampling date					Average yield, all farms
	S.D. Corp. 10/24/73	Wedgworth 10/25/73	Okeelanta 10/29/73	Saunders 10/30/73	Hatton Bros. 11/1/73	
C1 41-223.....	5,571	8,248	7,095	5,245	6,251	6,482
CP 63-485.....	6,052	7,890	8,244	7,173	7,226	7,317
CP 63-588.....	6,042	11,061	9,974	5,974	6,687	7,948
CP 65-357.....	9,156	11,199	11,747	12,589	9,844	10,907
CP 68-1020.....	8,070	9,831	7,485	8,295	7,744	8,285
CP 68-1022.....	8,397	8,393	8,250	6,995	7,428	7,892
CP 68-1026.....	8,338	12,786	10,095	11,408	9,759	10,477
CP 68-1031.....	6,663	9,690	8,548	8,779	7,411	8,218
CP 68-1067.....	9,107	13,033	10,979	7,713	8,754	9,917
CP 68-1115.....	4,928	6,956	6,736	7,758	4,226	6,121
CP 68-1145.....	6,760	12,561	8,015	8,590	8,580	8,901
CP 68-1154.....	6,678	11,477	9,002	9,618	7,925	8,940

1/ Yields of sugar per acre are based on early sucrose analysis and assume that early yields of cane per acre are equal to actual yields at harvest.

TABLE 10.--*Indicated yields of 96° sugar, in pounds per ton of cane, from first-stubble cane grown on Everglades peat*

Variety	Average yield by farm and harvest date					Average yield, all farms
	Wedgworth 11/26/73	Saunders 1/2/74	Okeelanta 1/15/74	S.D. Corp. 1/31/74	Hatton Bros. 3/28/74	
C1 41-223.....	209.4	226.0	226.9	210.0	221.7	218.8
CP 63-485.....	196.7	212.8	212.8	193.0	219.2	206.9
CP 63-588.....	223.3	222.4	227.6	210.5	226.0	222.0
CP 65-357.....	211.8	221.0	226.6	208.0	234.2	220.3
CP 68-1020.....	203.8	222.6	210.6	199.3	235.1	214.2
CP 68-1022.....	245.4	236.8	239.8	214.6	239.8	235.2
CP 68-1026.....	237.2	228.1	237.4	216.8	207.4	225.4
CP 68-1031.....	203.4	212.2	232.5	204.0	236.0	217.6
CP 68-1067.....	231.0	227.8	235.5	222.6	224.8	228.3
CP 68-1115.....	186.4	199.6	207.4	184.1	207.8	197.0
CP 68-1145.....	192.8	202.8	205.8	197.4	224.5	204.6
CP 68-1154.....	211.6	219.0	222.0	191.4	235.5	215.9
L.S.D.: 1/						
5% level ...	9.8	10.0	14.4	18.4	(2/)	6.8
1% level ...	13.2	13.4	19.4	24.7	(2/)	9.0

1/ L.S.D. = Least significant difference between any 2 values.
2/ Not significant.

TABLE 11.--*Indicated yields of 96° sugar, in pounds per acre of cane, from first-stubble cane on Everglades peat*

Variety	Average yield by farm and harvest date					Average yield, all farms
	Wedgworth 11/26/73	Saunders 1/2/74	Okeelanta 1/15/74	S.D. Corp. 1/31/74	Hatton Bros. 3/28/74	
C1 41-223.....	8,640	5,442	7,710	7,942	7,165	7,380
CP 63-485.....	8,779	7,748	8,693	7,041	8,371	8,126
CP 63-588.....	11,585	5,791	10,713	8,479	7,648	8,843
CP 65-357.....	12,610	12,624	12,622	11,047	11,551	12,090
CP 68-1020.....	10,948	9,051	9,018	10,423	9,658	9,820
CP 68-1022.....	8,817	6,907	9,750	8,921	8,556	8,590
CP 68-1026.....	12,818	11,403	11,262	11,677	9,768	11,386
CP 68-1031.....	9,767	9,888	11,127	7,723	8,649	9,430
CP 68-1067.....	13,107	8,303	11,855	10,783	10,379	10,885
CP 68-1115.....	7,916	8,565	7,475	6,690	4,933	7,116
CP 68-1145.....	13,147	9,286	11,290	10,557	11,391	11,134
CP 68-1154.....	12,302	10,779	10,474	7,474	8,577	9,921
L.S.D.: 1/						
5% level ...	735	775	869	1,046	979	402
1% level ...	987	1,042	1,168	1,406	1,316	531

1/ L.S.D. = Least significant difference between any 2 values.

TABLE 12.--*Yields of cane, in tons per acre, from second-stubble cane grown on Everglades peat*

Variety	Average yield by farm and harvest date				Average yield, all farms
	Wedgworth 11/26/73	S.D. Corp. 12/20/73	Okeelanta 1/14/74	Hatton Bros. 3/30/74	
C1 41-223.....	31.52	25.91	16.56	33.62	26.90
CP 56-59.....	42.14	39.30	18.06	52.02	37.88
CP 57-603.....	37.66	39.04	20.57	38.24	33.88
CP 62-374.....	49.91	38.54	26.96	47.18	40.65
CP 63-306.....	36.23	32.10	20.40	41.70	32.61
CP 63-588.....	39.52	39.40	23.12	36.11	34.54
CP 66-1079.....	49.72	39.05	20.08	31.90	35.19
L.S.D.: 1/					
5% level....	5.88	3.78	(2/)	3.70	3.33
1% level....	8.06	5.18	(2/)	5.06	4.42

1/ L.S.D. = Least significant difference between any 2 values.
2/ Not significant.

TABLE 13.--*Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of second-stubble cane grown on Everglades peat*

Variety	Average yield by farm and sampling date				Average yield, all farms
	S.D. Corp. 10/24/73	Wedgworth 10/25/73	Okeelanta 10/29/73	Hatton Bros. 11/1/73	
C1 41-223.....	136.3	179.6	181.7	205.4	175.8
CP 56-59.....	177.2	190.5	210.4	214.2	198.0
CP 57-603.....	145.0	158.9	217.8	182.6	176.0
CP 62-374.....	165.1	204.1	229.0	216.8	203.8
CP 63-306.....	185.1	231.8	232.5	229.6	219.8
CP 63-588.....	182.2	201.7	210.8	232.7	206.8
CP 66-1079.....	169.8	186.4	202.0	223.0	195.3

TABLE 14.--*Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of second-stubble cane grown on Everglades peat* 1/

Variety	Average yield by farm and sampling date				Average yield, all farms
	S.D. Corp. 10/24/73	Wedgworth 10/25/73	Okeelanta 10/29/73	Hatton Bros. 11/1/73	
C1 41-223.....	3,532	5,661	3,009	6,906	4,777
CP 56-59.....	6,964	8,028	3,800	11,143	7,484
CP 57-603.....	5,661	5,984	4,480	6,983	5,777
CP 62-374.....	6,363	10,187	6,174	10,229	8,238
CP 63-306.....	5,942	8,398	4,743	9,574	7,164
CP 63-588.....	7,179	7,971	4,874	8,403	7,106
CP 66-1079.....	6,631	9,268	4,056	7,114	6,767

1/ Yields of sugar per acre are based on early sucrose analysis and assume that early yields of cane per acre are equal to actual yields at harvest.

TABLE 15.--*Indicated yield of 96° sugar, in pounds per ton of cane, from second-stubble cane grown on Everglades peat*

Variety	Average yield by farm and harvest date				Average yield, all farms
	Wedgworth 11/26/73	S.D. Corp. 12/20/73	Okeelanta 1/14/74	Hatton Bros. 3/30/74	
C1 41-223.....	229.9	214.3	215.2	254.9	228.6
CP 56-59.....	221.8	221.4	208.2	249.4	225.2
CP 57-603.....	180.0	220.7	199.0	248.4	212.0
CP 62-374.....	225.9	240.1	215.4	250.0	232.8
CP 63-306.....	244.8	230.6	234.2	249.8	239.8
CP 63-588.....	234.6	237.7	240.6	246.5	239.8
CP 66-1079.....	214.4	193.0	190.6	211.6	202.4
L.S.D.: 1/					
5% level	13.5	12.3	16.1	19.4	7.4
1% level	18.5	16.8	22.1	26.6	9.8

1/ L.S.D. = Least significant difference between any 2 values.

TABLE 16.--*Indicated yields of 96° sugar, in pounds per acre of cane, from second-stubble cane grown on Everglades peat*

Variety	Average yield by farm and harvest date				Average yield, all farms
	Wedgworth 11/26/73	S.D. Corp. 12/20/73	Okeelanta 1/14/74	Hatton Bros. 3/30/74	
C1 41-223.....	7,246	5,552	3,564	8,570	6,233
CP 56-59.....	9,347	8,701	3,760	12,974	8,696
CP 57-603.....	6,779	8,616	4,093	9,499	7,246
CP 62-374.....	11,275	9,253	5,807	11,795	9,532
CP 63-306.....	8,869	7,402	4,778	10,417	7,866
CP 63-588.....	9,271	9,365	5,563	8,901	8,275
CP 66-1079.....	10,660	7,537	3,827	6,750	7,194
L.S.D.: 1/					
5% level....	849	611	914	840	423
1% level....	1,163	837	1,252	1,151	561

1/ L.S.D. = Least significant difference between any 2 values.

TABLE 17.--*Yields of cane and sugar from plant cane grown on custard-apple muck, Beardsley farm*

Variety	Cane harvest 2/12/74 (tons/acre)	96° sugar at preharvest 10/31/73		96° sugar at harvest 2/12/74	
		Pounds/ ton of cane	Pounds/ acre of cane 1/	Pounds/ ton of cane	Pounds/ acre of cane
C1 41-223.....	58.88	168.9	9,945	225.6	13,283
CP 63-588.....	76.66	208.5	15,984	270.0	20,698
CP 68-1158.....	70.92	204.2	14,482	275.1	19,510
CP 69-1052.....	67.96	223.2	15,169	248.6	16,895
CP 69-1056.....	57.95	247.7	14,354	251.4	14,569
CP 69-1059.....	67.36	237.7	16,011	265.4	17,877
CP 69-1061.....	65.32	210.2	13,730	270.8	17,689
CP 69-1062.....	65.94	200.4	13,214	226.5	14,935
CP 69-1074.....	63.33	218.4	13,831	254.4	16,111
L.S.D.: 2/					
5% level...	5.39	(3/)	(3/)	20.0	1,344
1% level...	7.30	(3/)	(3/)	27.1	1,822

1/ Yields of sugar per acre are based on early sucrose analysis and assume that early yields of cane per acre are equal to actual yields at harvest.

2/ L.S.D. = Least significant difference between any 2 values.

3/ Not determined.

TABLE 18.--*Yields of cane and sugar from first-stubble cane grown on custard-apple muck, Beardsley farm*

Variety	Cane harvest 2/14/74 (tons/acre)	96° sugar at preharvest 10/31/73		96° sugar at harvest 2/14/74	
		Pounds/ ton of cane	Pounds/ acre of cane 1/	Pounds/ ton of cane	Pounds/ acre of cane
C1 41-223.....	51.70	185.8	9,606	246.4	12,739
CP 63-485.....	74.14	197.8	14,665	247.8	18,372
CP 63-588.....	62.69	231.6	14,519	271.4	17,014
CP 65-357.....	76.76	205.0	15,736	235.8	18,100
CP 68-1020.....	62.75	208.8	13,102	237.8	14,922
CP 68-1022.....	47.01	246.3	11,578	257.4	12,100
CP 68-1026.....	52.17	239.8	12,510	254.6	13,282
CP 68-1031.....	75.71	201.4	15,248	221.0	16,732
CP 68-1067.....	65.04	233.2	15,167	267.9	17,424
CP 68-1115.....	72.74	162.9	11,849	241.6	17,574
CP 68-1145.....	79.72	195.6	15,593	238.4	19,005
CP 68-1154.....	68.56	231.0	15,837	258.0	17,688
L.S.D.: 2/					
5% level..	11.01	(3/)	(3/)	19.5	1,871
1% level..	14.80	(3/)	(3/)	26.2	2,514

1/ Yields of sugar per acre are based on early sucrose analysis and assume that early yields of cane per acre are equal to actual yields at harvest.

2/ L.S.D. = Least significant difference between any 2 values.

3/ Not determined.

TABLE 19.--*Yields of cane and sugar from second-stubble cane grown on custard-apple muck, Beardsley farm*

Variety	Cane harvest 2/12/74 (tons/acre)	96° sugar at preharvest 10/31/73		96° sugar at harvest 2/12/74	
		Pounds/ ton of cane	Pounds/ acre of cane 1/	Pounds/ ton of cane	Pounds/ acre of cane
C1 41-223.....	58.32	182.5	10,643	254.2	14,825
CP 56-59.....	61.40	233.4	14,331	241.9	14,853
CP 57-603.....	63.02	198.4	12,503	257.2	16,209
CP 62-374.....	67.78	219.1	14,850	283.7	19,229
CP 63-306.....	64.86	232.8	15,099	281.2	18,239
CP 63-588.....	62.55	234.9	14,693	263.6	16,488
CP 66-1079....	63.66	228.4	14,540	242.2	15,418
L.S.D.: 2/					
5% level ..	(3/)	(4/)	(4/)	21.1	1,479
1% level ..	(3/)	(4/)	(4/)	28.9	2,026

1/ Yields of sugar per acre are based on early sucrose analysis and assume that early yields of cane per acre are equal to actual yields at harvest.

2/ L.S.D. = Least significant difference between any 2 values.

3/ Not significant.

4/ Not determined.

TABLE 20.--*Yields of cane and sugar from first-stubble cane on mucky sand, Lykes Bros. farm*

Variety	Cane harvest 12/20/73 (tons/acre)	96° sugar at preharvest 10/23/73		96° sugar at harvest 12/20/73	
		Pounds/ ton of cane	Pounds/ acre of cane 1/	Pounds/ ton of cane	Pounds/ acre of cane
CP 56-59.....	42.61	189.1	8,058	223.3	9,515
CP 62-374....	54.97	227.1	12,484	233.2	12,819
CP 63-306....	44.86	216.2	9,699	259.3	11,632
CP 63-485....	45.82	167.3	7,666	249.1	11,414
CP 63-588....	47.71	215.0	10,258	258.3	12,323
CP 65-357....	50.94	211.3	10,764	246.8	12,572
CP 66-1079...	49.34	184.8	9,118	214.2	10,569
CP 68-1020...	42.89	183.3	7,862	253.8	10,885
CP 68-1022...	33.36	233.2	7,780	261.6	8,727
CP 68-1026...	50.34	225.0	11,326	256.8	12,927
CP 68-1031...	51.03	213.0	10,869	247.6	12,635
CP 68-1067...	47.34	201.8	9,553	253.4	11,996
CP 68-1115...	40.82	159.7	6,519	223.4	9,119
CP 68-1145...	49.72	148.2	7,368	203.1	10,098
CP 68-1154...	52.49	199.4	10,466	237.6	12,472
L 61-49.....	42.98	210.0	9,026	239.4	10,289
L.S.D.: 2/					
5% level.	5.36	(3/)	(3/)	14.6	938
1% level.	7.16	(3/)	(3/)	19.5	1,253

1/ Yields of sugar per acre are based on early sucrose analysis and assume that early yields of cane per acre are equal to actual yields at harvest.

2/ L.S.D. = Least significant difference between any 2 values.

3/ Not determined.

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